



MARK A. YOUNG
EXECUTIVE DIRECTOR

LOWELL REGIONAL WASTEWATER UTILITY

WASTEWATER COLLECTION AND TREATMENT



SERVING LOWELL
CHELMSFORD
DRACUT
TEWKSBURY
TYNGSBORO

July 13, 2021

RE: MA0100633

To Whom It May Concern:

The following is an itemization of status and improvements for the Lowell Regional Wastewater Utility during June 2021. Enclosed is a copy of the Discharge Monitoring Report, the required NPDES permit monitoring data, a summary of CSO discharges, and a summary of high flow bypasses for this period.

The Discharge Monitoring Report is being submitted electronically through the Environmental Protection Agency NetDMR website and also via email to the Massachusetts Department of Environmental Protection.

PERMIT EXCEEDANCES:

- There were no permit exceedances for the month of June 2021.

PROCESS CHANGES AND IMPROVEMENTS:

- All Screw pumps are available and in service.
- The primary clarifiers are undergoing annual maintenance. The clarifiers are drained and serviced one at a time during dry weather.
 - Primary Clarifiers No.1, No.2 and No.5 have been fully serviced.
- The scum tanks were emptied 5/10 through 5/21. This has reduced grease loading in the facility.
- As of 4/2, 3 of 4 aeration trains are online during dry weather. The 4th train is no longer required for process control due to rising wastewater temperature. The 4th train is brought online for wet weather treatment to maximize flow through secondary. The offline trains are undergoing annual maintenance service during dry weather.
 - Aeration Trains No.1, No.3, and No.4 have been fully serviced.
- The RAS, WAS, and Plant Water Pumps electric VFDs have been upgraded and are operational. This upgrade adds to the reliability of the facility pumping systems.
- The Utility is in the process of rebuilding the RAS pumps.
 - RAS Pump No.2 is offline and being rebuilt.
- The Utility continues to test an automated secondary bypass chlorination system. The system doses chlorine into the bypass line during a secondary bypass. This allows for additional chlorine contact time for bypassed flow.
- A higher chlorine residual is being maintained in the chlorine contact chamber during wet weather high flow.

- The Effluent Flow Measurement Weirs were calibrated by a third party on 5/14.
- A new remote pump station, Hamilton Canal Pump Station, was brought online 5/17.

ODOR COMPLAINTS:

- There was one odor complaint reported during this period. The odor complaint was at least partially contributed to odors from the collection system.

Respectfully,

A handwritten signature in black ink, appearing to read 'Aaron Fox', with a stylized flourish at the end.

Aaron Fox, Operations Manager
Lowell Regional Wastewater Utility
First St. Blvd. (Rt. 110)
Lowell MA 01850

NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM (NPDES)

Form Approved.

PERMITTEE NAME/ADDRESS (Include Facility Name/Location if Different)

DISCHARGE MONITORING REPORT (DMR)

OMB No. 2040-0004

NAME: LOWELL REGIONAL WW UTILITY

ADDRESS: 451 FIRST ST BLVD

LOWELL, MA 01850

FACILITY: LOWELL REGIONAL WW UTILITY

LOCATION: 451 FIRST ST BLVD

LOWELL, MA 01850

ATTN: AARON FOX, OPERATIONS MANAGER

MA0100633

PERMIT NUMBER

035-A

DISCHARGE NUMBER

DMR MAILING ZIP CODE: 01850

MAJOR \$

(SUBR E)

TREATED EFFLUENT

External Outfall

MONITORING PERIOD

MM/DD/YYYY

FROM

06/01/2021

TO

MM/DD/YYYY

06/30/2021

NO DISCHARGE

PARAMETER		QUANTITY OR LOADING				QUALITY OR CONCENTRATION				NO. EX	FREQUENCY OF ANALYSIS	SAMPLE TYPE
		VALUE 1	VALUE 2	VALUE 3	UNITS	VALUE 1	VALUE 2	VALUE 3	UNITS			
Oxygen, dissolved (DO)	SAMPLE MEASUREMENT	*****	*****	*****	*****	7.10	*****	*****	mg/L	0	01/01	GR
00300 1 0 Effluent Gross	PERMIT REQUIREMENT	*****	*****	*****	*****	Req. Mon. MO AVG	*****	*****	mg/L		Daily	GRAB
pH	SAMPLE MEASUREMENT	*****	*****	*****	*****	6.8	*****	7.3	SU	0	01/01	GR
00400 1 0 Effluent Gross	PERMIT REQUIREMENT	*****	*****	*****	*****	6.0 MINIMUM	*****	8.3 MAXIMUM	SU		Daily	GRAB
Solids, total suspended	SAMPLE MEASUREMENT	1,092	3,427	3,901	lb/d	4.6	10.56	13.0	mg/L	0	05/07	24
00530 1 0 Effluent Gross	PERMIT REQUIREMENT	8,006 MO AVG	12,010 WKLY AVG	Req. Mon. DAILY MX	lb/d	30 MO AVG	45 WKLY AVG	Req. Mon. DAILY MAX	mg/L		Weekdays	COMP24
Solids, total suspended	SAMPLE MEASUREMENT	*****	*****	*****	*****	224.7	*****	*****	mg/L	0	02/30	24
00530 G 0 Raw Sewage Influent	PERMIT REQUIREMENT	*****	*****	*****	*****	Req. Mon. MO AVG	*****	*****	mg/L		Twice per Month	COMP24
TSS % Removal	SAMPLE MEASUREMENT	*****	*****	*****	*****	97.9	*****	*****	%	0	01/30	CA
	PERMIT REQUIREMENT	*****	*****	*****	*****	85 MINIMUM	*****	*****	%		Monthly	CALC
Total Nitrogen	SAMPLE MEASUREMENT	*****	*****	*****	*****	16.02	*****	18.74	mg/L	0	01/07	CA
Effluent Gross	PERMIT REQUIREMENT	*****	*****	*****	*****	Req. Mon. MO AVG	*****	Req. Mon DAILY MAX	mg/L		Weekly	CALC
TKN	SAMPLE MEASUREMENT	*****	*****	*****	*****	14.16	*****	16.90	mg/L	0	01/07	24
Effluent Gross	PERMIT REQUIREMENT	*****	*****	*****	*****	Req. Mon. MO AVG	*****	Req. Mon DAILY MAX	mg/L		Weekly	COMP24
NO3,2-N	SAMPLE MEASUREMENT	*****	*****	*****	*****	1.86	*****	3.83	mg/L	0	01/07	24
Effluent Gross	PERMIT REQUIREMENT	*****	*****	*****	*****	Req. Mon. MO AVG	*****	Req. Mon DAILY MAX	mg/L		Weekly	COMP24

NAME/TITLE PRINCIPAL EXECUTIVE OFFICER	I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.	TELEPHONE		DATE
AARON FOX		978 674-4248		07/13/2021
OPERATIONS SUPERINTENDENT		SIGNATURE OF PRINCIPAL EXECUTIVE OFFICER OR AUTHORIZED AGENT		
TYPED OR PRINTED		AREA CODE	NUMBER	MM/DD/YYYY

NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM (NPDES)

Form Approved.

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DISCHARGE MONITORING REPORT (DMR)

OMB No. 2040-0004

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FACILITY: LOWELL REGIONAL WW UTILITY

LOCATION: 451 FIRST ST BLVD

LOWELL, MA 01850

ATTN: AARON FOX, OPERATIONS MANAGER

MA0100633

PERMIT NUMBER

035-A

DISCHARGE NUMBER

DMR MAILING ZIP CODE: 01850

MAJOR \$

(SUBR E)

TREATED EFFLUENT

External Outfall

MONITORING PERIOD

MM/DD/YYYY

FROM


06/01/2021

TO

MM/DD/YYYY

06/30/2021

NO DISCHARGE

PARAMETER		QUANTITY OR LOADING				QUALITY OR CONCENTRATION				NO. EX	FREQUENCY OF ANALYSIS	SAMPLE TYPE
		VALUE 1	VALUE 2	VALUE 3	UNITS	VALUE 1	VALUE 2	VALUE 3	UNITS			
Phosphorus, total (as P)	SAMPLE MEASUREMENT	*****	*****	*****	*****	0.35	*****	0.47	mg/L	0	01/07	24
00665 1 0 Effluent Gross	PERMIT REQUIREMENT	*****	*****	*****	*****	Req. Mon MO AVG	*****	Req. Mon. DAILY MX	mg/L		Weekly	COMP24
Flow, in conduit or thru treatment plant	SAMPLE MEASUREMENT	25.65	26.25	37.03	MGD	*****	*****	*****	*****	0	99/99	RC
50050 1 0 Effluent Gross	PERMIT REQUIREMENT	32 12MO AVG	Req. Mon MO AVG	Req. Mon. DAILY MX	MGD	*****	*****	*****	*****		Continuous	RCORDR
Chlorine, total residual	SAMPLE MEASUREMENT	*****	*****	*****	*****	100.00	*****	210	µg/L	0	01/01	GR
50060 1 0 Effluent Gross	PERMIT REQUIREMENT	*****	*****	*****	*****	196 MO AVG	*****	338 DAILY MX	µg/L		Daily	GRAB
Chlorine, total residual	SAMPLE MEASUREMENT	*****	*****	*****	*****	164.67	*****	900	µg/L	0	99/99	RC
50060 0 0 Intake	PERMIT REQUIREMENT	*****	*****	*****	*****	Req. Mon. MO AVG	*****	Req. Mon. DAILY MX	µg/L		Continuous	RCORDR
Ecoli	SAMPLE MEASUREMENT	*****	*****	*****	*****	12.38	*****	36	MPN	0	05/07	GR
Effluent Gross	PERMIT REQUIREMENT	*****	*****	*****	*****	126 MO GEO	*****	409 DAILY MX	MPN		Weekdays	GRAB
BOD, carbonaceous, 05 day, 20C	SAMPLE MEASUREMENT	1,607	2,232	5,070	lb/d	7.1	9.22	19.0	mg/L	0	05/07	24
80082 1 0 Effluent Gross	PERMIT REQUIREMENT	6,672 MO AVG	10,675 WKLY AVG	Req. Mon. DAILY MX	lb/d	25 MO AVG	40 WKLY AVG	Req. Mon. DAILY MX	mg/L		Weekdays	COMP24
BOD, carbonaceous, 05 day, 20C	SAMPLE MEASUREMENT	*****	*****	*****	*****	144.7	*****	*****	mg/L	0	02/30	24
80082 G 0 Raw Sewage Influent	PERMIT REQUIREMENT	*****	*****	*****	*****	Req. Mon. MO AVG	*****	*****	mg/L		Twice per Month	COMP24
BOD % Removal	SAMPLE MEASUREMENT	*****	*****	*****	*****	96.3	*****	*****	%	0	01/30	CA
Effluent	PERMIT REQUIREMENT	*****	*****	*****	*****	85 MINIMUM	*****	*****	%		Monthly	CALC
NAME/TITLE PRINCIPAL EXECUTIVE OFFICER		I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.							TELEPHONE		DATE	
AARON FOX									978 674-4248		07/13/2021	
OPERATIONS SUPERINTENDENT										SIGNATURE OF PRINCIPAL EXECUTIVE OFFICER OR AUTHORIZED AGENT		
TYPED OR PRINTED												

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Min		22.31	25.41	10.37	5.7	0.00	0.00	0.00	0.0	6.7	6.8	1	4.0	860	93.4	2.0	381	95.7
Max		37.03	89.92	26.63	7.8	0.21	0.11	0.90	6.8	14.0	7.3	36	19.0	5,070	97.7	13.0	3,901	99.7
Avg		26.25	36.49	18.85	7.1	0.10	0.040	0.16			7.0	16	7.1	1,607	96.3	4.6	1,092	98.0
Total		787.47										12		35,344			24,018	

Lowell Regional Wastewater Utility

NPDES Report (Permit NO. MA0100633)

June 2021

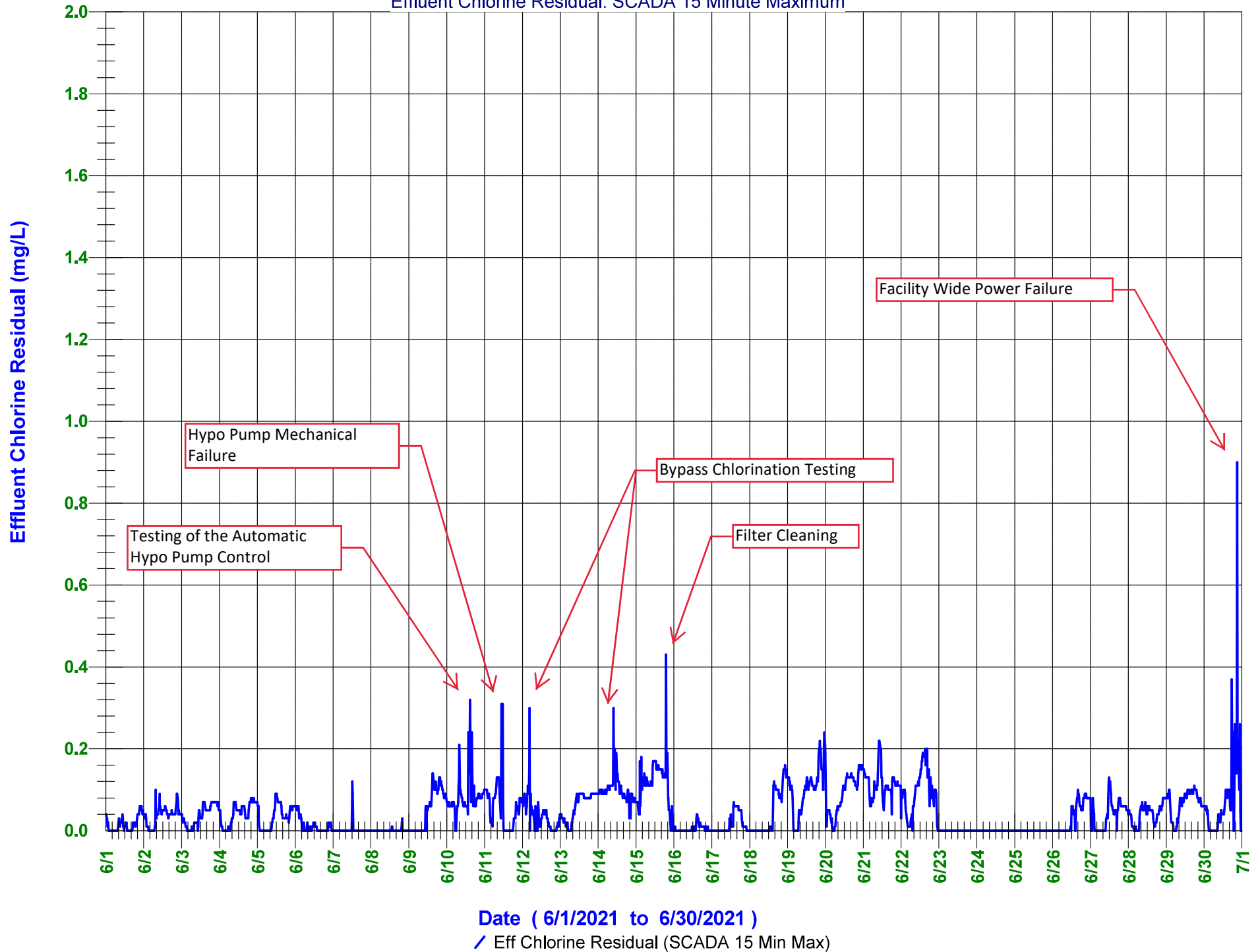
Printed on Tue Jul 13 2021

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Date	Total Nitrogen	TKN	Nitrate + Nitrite	Total Phosphorus
	(mg/L)	(mg/L)	(mg/L)	(mg/L)
01-Tue				
02-Wed				
03-Thu	17.18	16.90	0.28	0.34
04-Fri				
05-Sat				
06-Sun				
07-Mon				
08-Tue				
09-Wed	17.38	16.70	0.68	0.26
10-Thu				
11-Fri				
12-Sat				
13-Sun				
14-Mon	12.88	11.70	1.18	0.47
15-Tue				
16-Wed				
17-Thu				
18-Fri				
19-Sat				
20-Sun				
21-Mon	13.93	10.10	3.83	0.28
22-Tue				
23-Wed				
24-Thu				
25-Fri				
26-Sat				
27-Sun				
28-Mon	18.74	15.40	3.34	0.38
29-Tue				
30-Wed				
Min	12.88	10.10	0.28	0.26
Max	18.74	16.90	3.83	0.47
Avg	16.02	14.16	1.86	0.35
Total	80.11	70.80	9.31	1.73

Lowell Regional Wastewater Utility - MA0100633

Effluent Chlorine Residual: SCADA 15 Minute Maximum



Monthly Bypass Report

Date	Start Time	Start Influent Flow (MGD)	End Time	End Influent Flow (MGD)	Duration (Hours)	Volume (MG)
6/1/2021						
6/2/2021						
6/3/2021						
6/4/2021						
6/5/2021						
6/6/2021						
6/7/2021						
6/8/2021						
6/9/2021						
6/10/2021						
6/11/2021						
6/12/2021	04:43 am	63.47	08:09 am	54.67	3.5	4.68
6/13/2021						
6/14/2021	10:10 am	67.35	12:30 pm	54.79	2.2	2.26
6/15/2021	03:27 am	61.58	10:09 pm	55.04	2.7	1.75
6/16/2021						
6/17/2021						
6/18/2021						
6/19/2021						
6/20/2021						
6/21/2021						
6/22/2021						
6/23/2021						
6/24/2021						
6/25/2021						
6/26/2021						
6/27/2021						
6/28/2021						
6/29/2021						
6/30/2021	06:04 pm	81.61	11:01 pm	50.76	5.0	4.95

Lowell Wastewater Utility
High Flow Management Monthly Summary
January 2021 - December 2021

Date	Clean Water Discharge		Duck Island Rain		Treated High Flow			All Diversions		
	Flow (MG)	Peak Hour (MGD)	Rain Days	Rain Inches	Event (No.)	Duration (Hours)	Volume (MG)	Event (No.)	Duration (Hours)	Volume (MG)
Jan 2021	954	106.3	6	2.4	2	20.7	18.4	1	4.87	16.86
Feb 2021	754	104.1	11	2.2	1	5.1	9.5			
Mar 2021	891	72.4	7	1.9	3	11.3	6.3			
Apr 2021	970	97.5	10	6.7	7	45.5	53.6	2	13.28	86.43
May 2021	1,159	100.9	15	5.4	11	73.3	80.0	2	4.37	13.39
Jun 2021	885	94.4	10	1.9	4	13.4	13.6	1	0.55	2.17
Jul 2021	525	109.6	12	7.0	8	62.9	88.5	5	12.00	124.04
Aug 2021										
Sep 2021										
Oct 2021										
Nov 2021										
Dec 2021										
Total	6,138	685.1	71	27.4	36	232.1	269.9	11	35.1	242.9
Max	1,159	109.6	15	7.0	11	73.3	88.5	5	13.3	124.0

Date	Barasford Street			Beaver Brook			Merrimack Street			Read Street			Tilden Street			Walker Street			Warren Street			West Street		
	Event (No.)	Duration (Hours)	Volume (MG)	Event (No.)	Duration (Hours)	Volume (MG)	Event (No.)	Duration (Hours)	Volume (MG)	Event (No.)	Duration (Hours)	Volume (MG)	Event (No.)	Duration (Hours)	Volume (MG)	Event (No.)	Duration (Hours)	Volume (MG)	Event (No.)	Duration (Hours)	Volume (MG)	Event (No.)	Duration (Hours)	Volume (MG)
Jan 2021	1	3.5	4.8	1	0.7	0.1	1	4.9	7.3				1	2.8	0.4				1	0.6	0.3	1	2.2	4.0
Feb 2021																								
Mar 2021																								
Apr 2021	1	9.8	15.5	1	2.7	1.5	1	9.1	14.3				1	5.4	3.5	1	2.6	4.2	1	3.3	13.6	2	13.3	33.9
May 2021	1	2.6	3.5	1	0.6	0.1	1	2.3	3.2				1	1.1	0.4				1	0.6	0.7	2	4.4	5.4
Jun 2021													1	0.1					1	0.6	2.1			
Jul 2021	2	5.0	7.8	3	5.4	9.9	4	9.2	17.4				4	8.2	9.7	3	3.7	12.8	3	6.0	25.3	4	12.0	41.1
Aug 2021																								
Sep 2021																								
Oct 2021																								
Nov 2021																								
Dec 2021																								
Total	5	20.9	31.6	6	9.4	11.6	7	25.4	42.2	0	0.0	0.0	8	17.5	14.1	4	6.3	17.1	7	11.0	42.0	9	31.9	84.4
Max	2	9.8	15.5	3	5.4	9.9	4	9.2	17.4	0	0.0	0.0	4	8.2	9.7	3	3.7	12.8	3	6.0	25.3	4	13.3	41.1